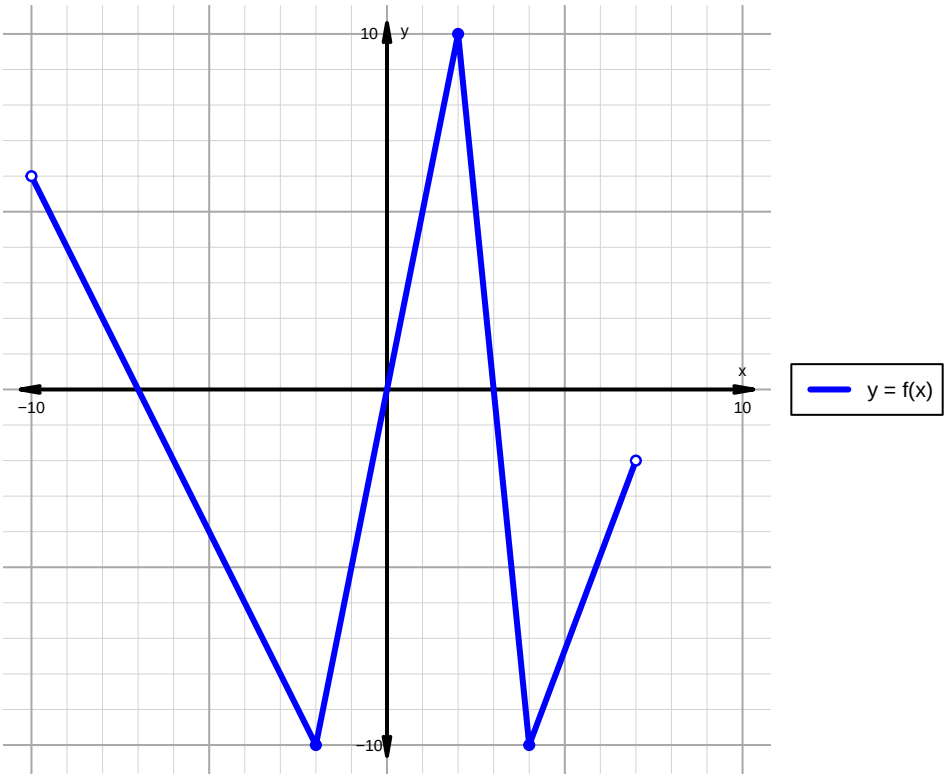
Name: Date:

Intervals, Transformations, and Slope Solution (version 3)

1. The function f is graphed below.

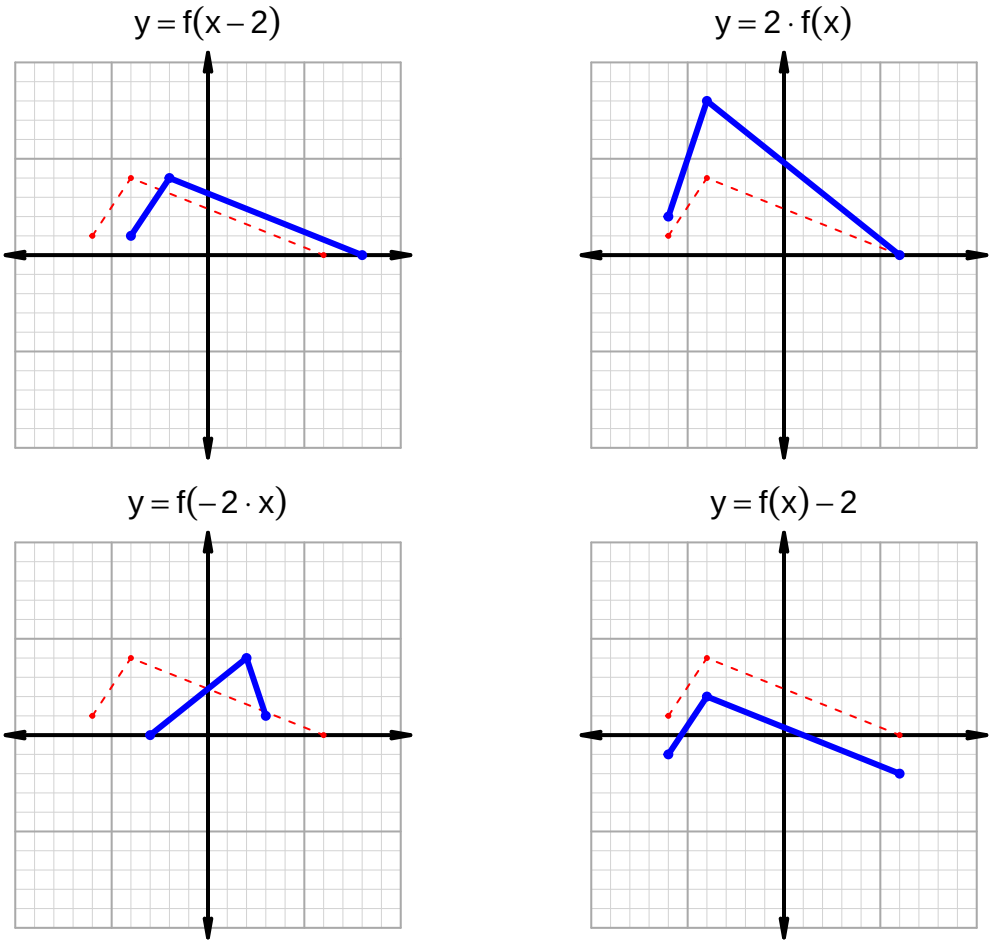


Indicate the following intervals using interval notation. Remember, you can use $\cup$ between two intervals to indicate the union. Except for range, all intervals will indicate x values; this is standard.

Feature	Where
Positive	$(-10,-7)\cup(0,3)$
Negative	$(-7,0)\cup(3,7)$
Increasing	$(-2,2)\cup(4,7)$
Decreasing	$(-10,-2)\cup(2,4)$
Domain	$(-10,7)$
Range	$(-10,10)$

Intervals, Transformations, and Slope Solution (version 3)

2. In the four graphs below, $y = f(x)$ is graphed as a dotted line. Please add the indicated transformed graphs indicated by the equations below using a solid line.



3. Let function g be defined by the table below. Use the formula $\frac{g(x_2)-g(x_1)}{x_2-x_1}$ to find the average rate of change between $x_1 = 70$ and $x_2 = 88$. Express your answer as a reduced fraction.

x	$g(x)$
18	88
70	18
88	99
99	70

$\frac{f(88)-f(70)}{88-70} = \frac{99-18}{88-70} = \frac{81}{18}$

The greatest common factor of 81 and 18 is 9. Divide numerator and denominator by the greatest common factor.

$$\text{AROC} = \frac{9}{2}$$